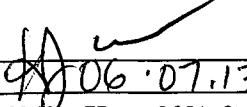
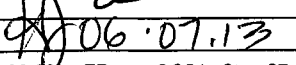


Date: Thursday, 7/13/2006 3:40:44 PM  
 User: Kim Johnston

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services  
 Job Number : 27912A  
 Estimate Number : 10023  
 P.O. Number : N/A  
 This Issue : 7/13/2006 S.O. No. : N/A  
 Prsht Rev. : NC  
 First Issue : N/A Type : LANDING GEAR  
 Previous Run : 27911A  
 Written By :   
 Checked & Approved By :   
 Comment : Est Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ  
 Est Rev. O 06.02.28 Added paperwork EC

Drawing Name : SKID TUBE ASSEMBLY  
 Part Number : D205634041  
 Drawing Number : D2580 REV C  
 Project Number : N/A  
 Drawing Revision : C  
 Material : N/A  
 Due Date : 8/15/2006 Qty: 1 Um: Each

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	D25001190	Ext'n -1' Beam Tube 4"
-----	-----------	------------------------



Comment: Qty.: 1.0400 Each(s)/Unit Total : 1.0400 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2500-1-190	Skid Tube Extrusion	B24669 RT 06-07-20

2.0	DC	DOCUMENT CONTROL
-----	----	------------------



Comment: DOCUMENT CONTROL

Photocopy D205-634 bluefile &amp; type labels per PPP D205-634 CHG001

N/A.

3.0	D2596	205 Web
-----	-------	---------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2596	205 Web	B27655 RT 06-07-24

4.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
-----	----------------	-------------------------



Comment: LANDING GEAR RESOURCE 1

1- Inspect mat'l D2500-1-190 for damage

RT 06 07 20

2-Cut D2500-1-190 per Dwg D2580 if necessary Debur ends

RT 06 -07-20

3-Drill pilot holes using drill jig DT 8149

RT 06-07-20

4-Acid etch and Alodine tube per QSI 005 4.1

RT 06-07-20

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_

NOTE: Date & initial all entries

NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Thursday, 7/13/2006 3:40:44 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 27912A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

5-Open holes to 0.500" as per Dwg D2580 without cutting fluid

6-Countersink holes as per Dwg D2580 without cutting fluid

7-Deburr and blow out all chips from inside of tube

8-Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting

Pick:

Qty	Part Number	Description	Batch
A/R	Sikaflex-291	M101621	
Sikaflex expire date: 07-02-01			
Start Time: 11:00 am 06-07-24			
Fin Time: 7:00 am 06-07-25			

IT  
06-07-24

5.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

1-Bend as per program D2580.C on CNC Bender and Folio FT009

2-Cut tubes as per Dwg. D2580

PM 06-07-24

6.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Deburr ends after cutting. Remove alodine from around holes

IT 06-07-31

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

DE 06-08-01

8.0

D25763

Step (Machining Detail)



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2576-3	Step	B23060 BF 06-08-01

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Thursday, 7/13/2006 3:40:44 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 27912A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

9.0

D2579

Crossbolt Spacer



Comment: Qty.: 20.0000 Each(s)/Unit Total: 20.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
20	D2579	Spacers	BE 27167 BE 06-08-01

10.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Prepare tube for welding D2576-3 StepRemove alodine as required.

BE 06-08-01

2-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R

Aluminum Rod

M100660 BE 06-08-01

3-Weld crossbolt spacers D2579 as per Dwg. D2580 and QSI 004. For D2579

spacers, weld one

side, pass 3/8" drill, weld other side, pass 3/8" drill

A/R

Aluminum Rod

M100660 BE 06-08-01

4-Grind welds as per Dwg D2580 Grind flush ridge made from bending

5-Drill holes for wearplates using DT 8217Open holes to 19/64", adjust stopper not to hit web. Debur

6-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580. Debur holes

7-Drill pilot holes for aft cap using DT 8215Open holes to #6 Drill bit. Debur

8-Drill pilot holes for Tow ring using DT8091, open to .640"and Debur

BE 06-08-03

11.0

QC5/9

WELD INSPECTION



Comment: WELD INSPECTION

Inspect weld and Counterbore work to Step 20

for 06-08-01

PD 06-08-04 ①

12.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Powder Coat White (Ref: 4.3.5.2) as per QSI 005 4.3

DL 06-08-18 ①

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Thursday, 7/13/2006 3:40:44 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 27912A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

*Q.m 06-08-19*

*①*

14.0

D25771

Wearplate Fwd



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2577-1	Wearplate	<i>B 26350</i>

15.0

D25773

Wearplate Aft



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2577-3	Wearplate	<i>B 26058</i>

16.0

D25775

Wearplate, Centre



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2577-5	Wearplate	<i>B 24199</i>

17.0

ALS71032130

Insert



Comment: Qty.: 44.0000 Each(s)/Unit Total : 44.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
44	ALS7-1032-130	Inserts	<i>m 19393</i>

18.0

AN960JD10L

Washer



Comment: Qty.: 44.0000 Each(s)/Unit Total : 44.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
44	AN960JD10L	Washer	<i>m 100233</i>

*Q.m*

*06-08-19*

*①*

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action		Section B		Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr		Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_



Date: Thursday, 7/13/2006 3:40:45 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 27912A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

AN34A

Bolt



Comment: Qty.: 44.0000 Each(s)/Unit Total : 44.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
44	AN3-4A	Bolt	<u>m101697</u>

20.0

D25943

Plug



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
16	D25943	<del>O-RING</del> plug	

4x B25593 12x B26364

q.m 06-08-19

21.0

D25943

O-Ring



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
16	D25943	<del>Plug</del> O-ring	<u>B24104</u>

22.0

D2855

Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Cap

Batch: B26351

23.0

AN35A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch: m15205

24.0

AN960JD10L

Washer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Washer

Batch: m100233

q.m. 06-08-19 (1)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_

NOTE: Date & initial all entries

NCR: Yes ☒ No ☐ DQA: ☒ Date: 06/08/27  
QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Thursday, 7/13/2006 3:40:45 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 27912A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

25.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Install inserts & wearplates as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R Sikaflex-291 m100855

Sikaflex expire date: 02-07

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

A/R Sikaflex-291 m100855

Sikaflex expire date: 02-07

9m 06-08-19 Q

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

m101667

Batch:

FC 060821 Q

26.0

QC5

INSPECT WORK TO CURRENT STEP



DL

06/08/21

Q

Comment: Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

27.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-634-041

Location: —

PPP Rev: —

N/A

28.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06.08.21

Job Completion



u 2008-13

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action		Section B		Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr		Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. C SHEET 1 OF 2
DATE 98.08.26		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	

RELEASED  
98/09/17 DS

QTY	Part Number	Description
X	D2580-041	SKIDTUBE ASSEMBLY
*	D2500-1	EXTRUSION
1	D2596	205 WEB
1	D2575	AFT CAP
1	D2576 - 3	STEP
20	D2579	CROSS BOLT SPACER
16	D2594-1	PLUG
16	D2594-3	O-RING
1	D2577-1	WEARSHOE
1	D2577-3	WEARSHOE
1	D2577-5	WEARSHOE
44	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or ALS4-1032-130	INSERT
46	AN3-4A	BOLT
46	AN960JD10L	WASHER

# 00.08.28  
UP 00.08.28

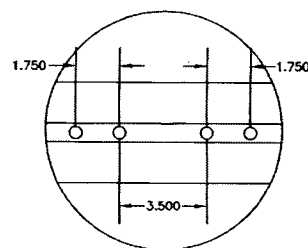
EFFECTIVE DEOS  
98/12/14  
DEO 9124  
DEO 9183

#### GENERAL NOTES:

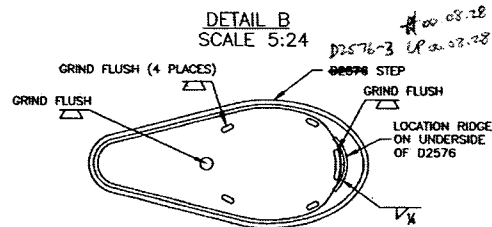
- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) LENGTH OF D2500-1 EXTRUSION BEFORE BENDING = 190 INCHES \*
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (44 PLACES) AFTER FINISH. INSTALL AN3-4A BOLTS AND AN960JD10L WASHERS WITH SIKAFLEX-241.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 27912A

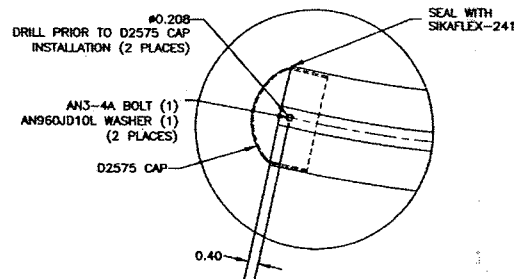
DETAIL A  
SCALE 5:24



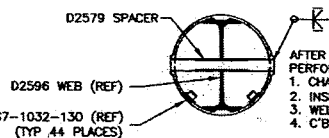
DETAIL B  
SCALE 5:24



DETAIL C  
SCALE 5:24

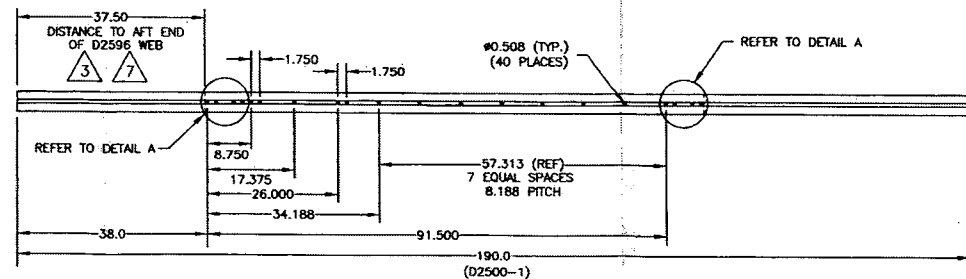


SECTION D-D  
SCALE 5:24

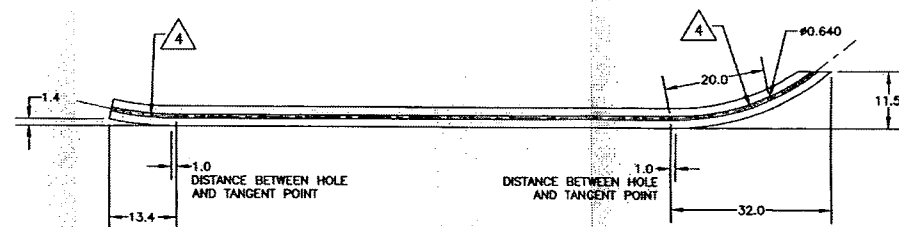


AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:  
1. CHAMFER HOLE 0.050 X 45°  
2. INSERT D2579 SPACER (20 PLACES)  
3. WELD INTO PLACE AND GRIND FLUSH  
4. C'BORE D2579 SPACER TO #0.437 X 1.00 DEEP

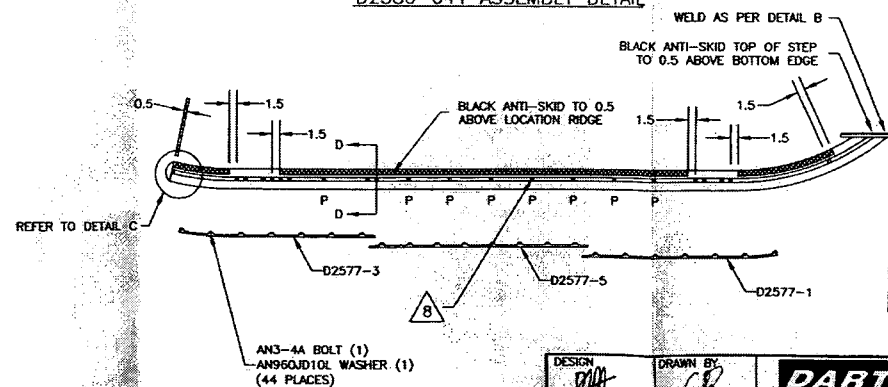
D2580-1 DRILLING DETAIL



D2580-1 BENDING AND CUTTING DETAIL



D2580-041 ASSEMBLY DETAIL



RELEASED  
98/09/17 DS

DESIGN DHA	DRAWN BY CP	<b>DART</b> DART AEROSPACE LTD WILMINGTON, ONTARIO, CANADA	REV. C
CHECKED DHA	APPROVED JS	DRAWING NO. D2580	SHEET 2 OF 2
DATE 98.08.26		TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:24

NO. 27912 A  
WORK ORDER  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
UNCONTROLLED COPY  
RETURN TO  
ENGINEERING  
HOP COPY  
ALS7-1032-130 (REF)  
D2596 WEB (REF)  
D2579 SPACER